

The State of New Hampshire
Department of Environmental Services



Michael P. Nolin
Commissioner

City of Lebanon
51 North Park Street, PO Box 1207
Lebanon, NH 03766-4207

Re: Boston Lot Lake
Dam #134.17

**ADMINISTRATIVE ORDER
No. WD 04-27**

December 27, 2004

A. INTRODUCTION

This Administrative Order is issued by the Department of Environmental Services, Water Division to the City of Lebanon, pursuant to RSA 482:12 and RSA 482:87. This order is effective immediately upon issuance.

B. PARTIES

1. The Department of Environmental Services, Water Division ("DES"), is a duly constituted administrative agency of the State of New Hampshire, having its principal office at 29 Hazen Drive, Concord, NH 03302-0095.
2. The City of Lebanon ("Owner") is a municipality having a mailing address of 51 North Park Street, PO Box 1207, Lebanon, New Hampshire 03766-4207.

C. STATEMENTS OF FACTS AND LAW

1. Pursuant to RSA 482, DES regulates the construction and maintenance of dams so as to meet the stated statutory objectives, including the regulation of water levels, the lessening of flood damage, and the enhancement of public safety. Pursuant to RSA 482:87, the Commissioner of DES has adopted NH Admin. Rules Env-Wr 100-700 to implement this program.
2. According to DES records, the City of Lebanon owns the dam in Lebanon, NH known as the Boston Lot Lake Dam, further identified as Dam #134.17 ("Dam"). The Dam is located approximately one half mile upstream of the primary state highway, NH Route 10 across from the Wilder Dam.
3. RSA 482:12 requires DES to periodically inspect all dams in the state which may pose a menace to public safety, and to take action to ensure that the dam is repaired if the inspection indicates that the public safety so requires.
4. RSA 482:2, V defines a "dam in disrepair" as a dam which is a menace to public safety and is incapable of safely impounding flood waters to its crest, or is incapable of maintaining a reasonably constant level of waters impounded or which does not contain adequate gates and sluiceways to provide for the holding or controlled discharge of waters impounded.

5. RSA 482:11-a requires the owner of a dam to maintain and repair the dam so that it does not become a dam in disrepair.
6. Env-Wr 101.21 defines "menace to public safety" as any dam whose failure would threaten life or property. Property, when used in this context, means buildings, structures or other real estate.
7. Env-Wr 101.04 defines "Class B Structure" as a dam with a significant hazard potential, the failure of which would result in major damage to a primary state highway.
8. The Dam has been classified as a Class B Structure by DES.
9. On December 15, 1988 an administrative order (AO) was issued to the Owner that required maintenance of the Dam. The AO included 5 items to be addressed by the Owner. These were:
 - a. Clear all tress and brush from the crest, upstream slope, downstream slope and from both abutments.
 - b. Eliminate the seepage that is emanating from the downstream slope approximately 12' below the crest and 20' to the right of the axis of the outlet pipe.
 - c. Repair the eroded areas along the entire crest and on the upstream slope adjacent to the gate intake section.
 - d. Return the low level gate and outlet pipe to an operable condition.
 - e. Submit a detailed Emergency Action Plan (EAP) to DES. The requirement to perform a breach analysis and a detailed inundation map are waived.
10. On July 1, 1994, an inspection was conducted in accordance with RSA 482:12 and Env-Wr 502.02, that resulted in the following recommendations:
 - a. Remove the debris which is present upstream, within and immediately downstream of the overflow spillway.
 - b. Remove the trees and brush from the crest, upstream slope and downstream slope of the embankment.
 - c. Mow the downstream slope of the embankment and evaluate its condition (i.e. fill any animal burrows, note any seepage, etc...).
 - d. Regrade the crest and upstream slope of the embankment to return these areas to a smooth and level condition.
 - e. Establish an appropriate erosion protection on any bare or disturbed areas (crest, upstream and downstream slopes) after earthwork activities have been completed.
 - f. Determine the cause of the embankment wetness at the swales adjacent to the downstream abutments and devise a method to channel this flow safely away from the embankment.
 - g. Return the low level outlet to an operable condition or construct a new outlet through the embankment. Any work associated with the low level drain/new outlet must be preapproved by DES.
11. On July 18, 1994 the Owner was sent a Letter of Deficiency (LOD) requesting a schedule within 14 days for the repair of deficiencies as observed during a scheduled safety inspection on July 1, 1994.

12. A letter, dated September 20, 1994, was received from the Owner stating that the LOD items (a.) through (f.) had been or would be addressed by November 30, 1994. The letter indicated that the low level outlet problem (g) would be evaluated during 1995.

13. A follow-up inspection was conducted on March 26, 1996 to check on the outstanding LOD items. Several of the deficiencies identified during the July 1, 1994 inspection remained and additional deficiencies were noted. Additional deficiencies included drainage that was observed along the left groin and a sinkhole that was observed in the right groin of the downstream embankment.

14. On October 15, 1996 DES conducted a scheduled inspection of the dam. Since there appeared to be some progress by the Owner to address deficiencies, another AO was not issued.

15. On December 3, 1996 another LOD was issued to the Owner to address the remaining deficiencies from 1994, as well as the additional deficiencies noted during the October 15, 1996 inspection. The additional deficiencies included the lack of an operation and maintenance plan (O&M), the lack of an EAP (a requirement of the December 1988 AO), and drainage/surface flow along the left groin of the downstream embankment. A complete listing of the recommendations of the December 3, 1996 LOD is as flows:

- a. Submit a written operating procedure for the Dam.
- b. Remove the trees and brush from the downstream slope of the embankment and spillway areas.
- c. Regrade the crest and upstream slope of the embankment to return these areas to a smooth and level condition. Consider restricting recreational vehicle access to the crest of the Dam.
- d. Return the low level outlet to an operable condition or construct a new outlet through the embankment. Any work associated with the low level drain/new outlet must be preapproved by DES.
- e. Submit an EAP.

16. From January 1998 to September 1999, DES worked with the Owner to complete the EAP.

17. On August 25, 1999, DES conducted a follow-up inspection and found no compliance with the 1996 LOD.

18. On September 17, 1999, DES accepted the EAP.

19. On December 15, 1999, DES performed a scheduled inspection with a representative of the Owner and found partial compliance with 1996 LOD. Specifically, some of the brush referred to in item 14 (b.) had been removed and the EAP had been completed.

20. On September 6, 2000, DES conducted a follow-up inspection and found no action on the remaining items noted in the 1996 LOD, though it appeared that regular mowing of the crest and removal of weedy growth were being performed.

21. On November 21, 2003, DES conducted a scheduled inspection. The Owner was notified of the inspection but chose not to be present. A follow up phone call was made to the Owner to give notice of the deficiencies observed.

22. On December 16, 2003, DES issued a trip report documenting the lack of progress in addressing the outstanding deficiencies from the 1996 LOD. The trip report included the following items:

- a. There were trees and brush on sections of the downstream slopes of the dam and around the abutments of the spillway.
- b. The crest of the embankment was uneven and eroded in areas.
- c. The low-level pond drain/gate was inoperable.
- d. There was active flow of water along the left groin of the downstream embankment with evidence of fines settling out of the flow. It is unclear as to how much of this flow is from off site and how much is seepage through the dam.
- e. The downstream embankment was, in general, wet as was the toe of the dam.
- f. There was beaver debris, approximately 1.5 feet blocking the upstream face of the spillway and raising the water level significantly. The water level was measured as 2.5 feet below the top of the crest of the dam.
- g. There is no operation and maintenance plan on file at DES.
- h. The emergency action plan had never been tested.

23. On October 25, 2004, DES conducted a dam safety inspection with the dam owner. The EAP was tested in June 2004. Otherwise there has been no progress on the outstanding deficiencies.

24. The dam is in disrepair as defined in RSA 482:2 V.

25. The Dam in the current state of disrepair is a menace to public safety, as a failure of the dam would damage the downstream primary state highway, NH Route 10.

D. DETERMINATION OF VIOLATIONS

1. The Owner has violated RSA 482:11-a by failing to maintain the Dam to prevent it from becoming a "dam in disrepair".

E. ORDER

Based on the above findings, DES hereby orders the Owner as follows:

1. **Within 30 days from receipt of this Order**, remove all floating debris from the area of the spillway to ensure that the spillway is returned to a free-flowing condition. Remove trees and brush from the downstream embankment and from the spillway abutments of the dam. Begin a regimen of diligent monitoring and operation relative to the areas of known seepage (see below) and to maintain the spillway free of debris. Provide DES with a detailed written monitoring and maintenance plan. The plan, when approved by DES, will remain in place and the owner shall perform monitoring and maintenance in strict accordance with the approved plan until such time as compliance with items E.2 through E.5 (Dam reconstruction) **OR** E.6 and E.7 (Dam removal) of this Order have been achieved.

If the Owner elects to repair the Dam pursuant to Item E.1, then the Owner must address Item E.2 through E.5, below:

1. **By June 1, 2005** Retain the services of a Professional Engineer licensed in the State of New Hampshire who shall submit a schedule to DES for the investigation and analysis of the Dam to address the information in item E.3 below.
2. **By October 1, 2005** Submit to DES an engineering report as completed by a New Hampshire Licensed Professional Engineer with results and recommendations resulting from structural, hydrologic, and hydraulic analyses of the Dam. The report should include an assessment of all portions of the Dam and its appurtenances, including stability under anticipated loading conditions, as well as a recommendation relative to the rehabilitation of the existing low level outlet or for the construction of a new one. In addition, all deficiencies as noted through previous DES inspections should be analyzed.
3. **By January 1, 2006** Submit design plans, specifications, and any required DES permit applications for the reconstruction of the Dam to meet current DES standards for an existing Class B dam.
4. **By December 1, 2006** Complete the reconstruction of the Dam in accordance with the approved plans, specifications, and permit conditions.

If the Owner elects to remove the Dam pursuant to Item E.1, then the Owner must address Item E.6 and E.7, below:

5. **By March 1, 2005** Submit design plans, specifications and any required DES permit applications for the removal of the Dam.
6. **By December 1, 2006** Remove the Dam in accordance with the approved plans, specifications, and permit conditions.

Send correspondence, data, reports, and other submissions made in connection with this Administrative Order, **other than appeals**, to DES as follows:

Grace Levergood, P.E., Dam Safety Engineer, Dam Bureau
DES Water Division
29 Hazen Drive
Concord, NH 03301
Fax: (603) 271-7894
E-mail: glevergood@des.state.nh.us

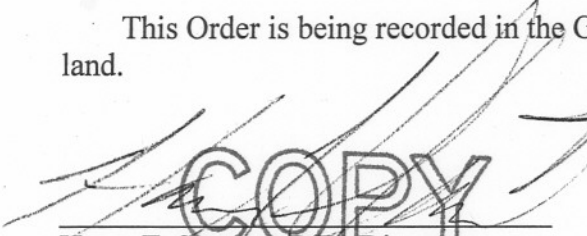
F. APPEAL

Any person aggrieved by this Order may appeal the Order to the Water Council by filing an appeal that meets the requirements specified in Env-Wc 200 within 30 days of the date of this Order. Copies of the rule are available from the DES Public Information Center at (603) 271-2975 or at <http://www.des.state.nh.us/desadmin.htm>. Appealing the Order does not automatically relieve the City of Lebanon of the obligation to comply with the Order.

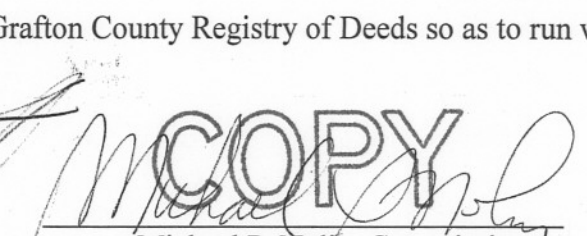
G. OTHER PROVISIONS

Please note that RSA 482:89 provides for administrative fines and criminal penalties for the violations noted in this Order. DES will continue to monitor City of Lebanon's compliance with applicable requirements and will take appropriate action if additional violations are discovered.

This Order is being recorded in the Grafton County Registry of Deeds so as to run with the land.


COPY

Harry T. Stewart, P.E., Director
Water Division


COPY

Michael P. Nolin, Commissioner
DES

Certified Mail/RRR: 7000 1670 0000 0588 5755

cc: Gretchen R. Hamel, DES Legal Unit ✓
Public Information Officer, DES PIP Office
NH AGO
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